

CLAIM AMENDMENTS

Please amend Claims 68, 70, and 71, as follows:

1. - 67. (Cancelled)

68. (Currently Amended) A process for crystal growth by using a crystal growth apparatus comprising a crucible for holding a crystal material, a heating means which is capable of forming at a periphery of the crucible a temperature gradient within a temperature range including a melting point of the crystal material, a supporting means for supporting a center bottom of the crucible, a cooling means provided at the supporting means, and a plurality of temperature detecting means detectors provided at the bottom of the crucible for detecting a temperature distribution across a first plane at the bottom of the crucible, the process comprising the steps of:

detecting using said plurality of temperature detectors to detect the temperature distribution across said first plane of the crucible; and

controlling the heating means and the cooling means such that in the detected temperature distribution across said first plane of the crucible, a temperature almost at a center portion of said first plane of the crucible is minimized.

69. (Previously Presented) The process according to claims 68, 71, 72, 73, or 74, wherein said step of controlling the cooling means is effected by adjusting a flow rate of cooling medium flowed into the cooling means.

70. (Currently Amended) The process according to claims 68, 71, 72, 73, or 74, wherein the temperature detecting means includes a plurality of thermocouples and said step of detecting the temperature distribution is effected by said thermocouples.

71. (Currently Amended) The process according to claim 68, A process for crystal growth by using a crystal growth apparatus comprising a crucible for holding a crystal material, a heating means which is capable of forming at a periphery of the crucible a temperature gradient within a temperature range including a melting point of the crystal material, a supporting means for supporting a center bottom of the crucible, a cooling means provided at the supporting means, and a temperature detecting means provided at the bottom of the crucible for detecting a temperature distribution across a first plane at the bottom of the crucible, the process comprising the steps of:

detecting the temperature distribution across said first plane of the crucible; and

controlling the heating means and the cooling means such that in the detected temperature distribution across said first plane of the crucible, a temperature almost at a center portion of said first plane of the crucible is minimized,

wherein the interior of the crucible is divided into plural layers by a plurality of disks formed across respective cross-sections of the crucible, wherein the temperature detecting means is further provided in the disks, and wherein said process further comprises the step of detecting a temperature distribution across said respective disks.

72. (Previously Presented) The process according to claim 71, wherein each disk has an opening at almost its center.

73. (Previously Presented) A process for crystal growth by using a crystal growth apparatus comprising a crucible for holding a crystal material, the crucible being divided into plural layers by a plurality of disks formed across respective cross-sections of the crucible, the crystal growth apparatus further comprising a heating means which is capable of forming at a periphery of the crucible a temperature gradient within a temperature range including a melting point of the crystal material, a supporting means for supporting a center bottom of the crucible, a cooling means provided at the supporting means, and a temperature detecting means provided in at least one of the disks for detecting a temperature distribution across that disk, the process comprising the steps of:

detecting the temperature distribution across said at least one of said disks; and

controlling the heating means and the cooling means such that in the detected temperature distribution across said at least one disk, a temperature almost at a center portion thereof is minimized.

74. (Previously Presented) The process according to claim 73, wherein each disk has an opening at almost its center.